

**EOSDIS IV&V
Monthly Program Status Report
For the Period 5/1/95 to 5/31/95
(Deliverable 0201.11)**

June 15, 1995

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Greenbelt, MD 20770

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1. PROGRAMMATIC INFORMATION

1.1 IV&V Project Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. For each lead position, we have identified company affiliation, geographic location, phone number, and task assignment. Also included is the number of full time equivalent engineers assigned to each technical task.

1.2 Overview of Work Being Performed

a) List of Active Task Assignments

- Task 1: IV&V Program Management
- Task 2: Facilities, Operations, and Program Reporting
- Task 4: IV&V Infrastructure and Tool Development
- Task 5: Requirements Analysis and Traceability
- Task 6: ECS Development Analysis
- Task 9: Key Interface Analysis
- Task 10: EITVP and EOSDIS/EGS Certification Test Support
- Task 11: System Integration and Test (SI&T) Planning and Execution
- Task 12: EDOS IV&V
- Task 13: IV&V Special Studies

b) Key Recent Accomplishments

- **Programmatic**
 - Participated in Findings Meeting with ESDIS Management on May 11, 1995. Focused on plans to measure successful ECS CDR.
 - Continued providing draft inputs to task SOWs for the upcoming contract year, as well as staffing and budgetary estimates. Arranged for meeting in early June with NASA Contracting Officer to discuss correct paper trail and process for ensuring smooth transition into next contract year.
 - Began drafting SOW inputs for Task 7, the new EDOS Development Analysis task.
 - Attended EOSDIS Test System (ETS) System Design Review (SDR) and generated 41 RIDs noting key risk areas. Also supported EDOS Operational Prototype Requirements Review and generated 7 RIDs.

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Exhibit 1-1: Org Chart (Landscape)

- Participated in 3 DAAC “Roadshows” (for GSFC, ADF, and LaRC DAACs) to communicate the roles, responsibilities, and interfaces between IV&V and the specific DAAC in attendance.
- Continued populating the IV&V Homepage with contract deliverables that can be downloaded in multiple formats to members of the EOSDIS community.
- **Technical**
 - Under Task 4, prepared for Milestone 1 Release 3 (M1R3) Tools Demonstration to be conducted on June 13, 1995. Also, established an Integrated Support Environment (ISE) Sybase database to support ongoing Test Management Database (TMDB) and Automated Requirements Database (ARDB) client/server development efforts.
 - Under Task 5, continued ECS requirements analysis, completing the majority of Level 3 quality, testability, and traceability assessments. Also continued user, production, performance, and cost modeling analyses; and reviewed statistical analysis tool being considered for performance model evaluation.
 - Under Task 6, completed IR-1 and Release A design analysis of SDPS and submitted corresponding Technical Analysis Memorandum (TAM). Also began white paper to address CDR process and success criteria.
 - Under Task 9, continued to populate the Interface Analysis Database (IADB) and data dictionary with dataflow information from available IRDs, and demonstrated the IADB to ESDIS and SES management personnel. Also delivered a TAM on the November version of the ECS-to-Version 0 IRD.
 - Under Task 10, submitted draft of the EOSDIS Integration, Test and Validation Plan (EITVP) for GSFC review. Also attended ETS SDR and recommended that delta SDR be conducted to address numerous open issues.
 - Under Task 11, developed and submitted annotated outline of EGS I&T Plan. Also restarted the development of the EGS functional thread architecture, and reviewed the Test Data Management Tool Plan.
 - Under Task 12, submitted a Technical Analysis Report (TAR) on the EDOS requirements as well as an updated version of the TRW CUP study reports. Also generated RIDs for the Operational Prototype Requirements Review.
 - Under Task 13, coordinated the installation of X-Runner at the GSFC DAAC and provided technical direction for collecting system monitoring data at the various DAACs. Also continued V0 test scenario development and execution.

c) New/Proposed Task Assignments

- Funding through the EDOS Project Office for the EDOS IV&V task (i.e., Task 12) ends on July 15, 1995. In order to maintain the continuity of this effort, we recommend that a new task (i.e., Task 7, EDOS Development Analysis) be initiated through the System Management Office (SMO) to begin on July 16, 1995. We plan to submit a concept document in early June to the SMO suggesting the scope and activities for this new task.

d) Follow-up on Technical Action Items from March 16 PSR

- 1) Have Chris Daly of NASA review the estimated decrease in future costs of mass storage in order to reconcile the HAIS estimate (i.e., 5% decrease per year) with the industry standard estimate (i.e., 35% decrease per year).
Action: *Debbie Izumi, Intermetrics team*
Status: IV&V discussed these cost estimation discrepancies with Chris Daly during a meeting in mid-March. Later, in an IV&V TAM on the Interactive Cost Model, it was noted that the HAIS cost estimates were very conservative. Since this information has been fully communicated and documented, the issue is considered closed.
- 2) Develop a user-friendly interface for the HAIS interactive cost model.
Action: *Chris Daly, NASA*
Status: The IV&V team generated a TAM on April 27 identifying some of the short-comings of the user interface. This TAM was delivered to Chris Daly for his review.
- 3) Obtain the DID on the ICDs and review its contents in order to better gauge the current state of the existing ICDs.
Action: *Pete VanWie, Intermetrics team*
Status: The IV&V team reviewed the DID and generated a TAM on May 8 outlining a more detailed format and content for the ICDs. Item closed.
- 4) For dependency planning purposes, provide the ESDIS Project with a list of the items needed by the IV&V team as well as the time frame in which those items must be received in order for IV&V to accomplish its work.
Action: *Gordon Henley, Intermetrics team*
Status: The short-term items needed by IV&V were the RTM data package from HAIS and greater access to EDOS-related documentation. Both these items have been satisfactorily addressed as of May 25, 1995. Long-term needs are still being evaluated.

- 5) Determine the type of high level requirements analysis data desired by the ESDIS Project and provide this data. Speak with Ellen Herring and/or Janice Smith on this issue.
Action: *Debbie Izumi, Intermetrics team*
Status: An Executive Summary is now being included as part of each Requirements Analysis TAR. Item closed.
- 6) Add the E-mail addresses of individual IV&V team members to the IV&V Homepage.
Action: *Rich Saad, Intermetrics team*
Status: Done. Item closed.
- 7) Provide metrics to the Interface Control Working Group (ICWG) on the number of TBDs that appear within the IRDs.
Action: *Pete VanWie, Intermetrics team*
Status: The IV&V team generated a TAM documenting the number of TBDs that appeared within the reviewed IRDs. This TAM was submitted in early May. Item closed.
- 8) Provide the IV&V team with the specific definitions used for the different levels of requirements criticality (i.e., Mission Critical, Essential, Fulfillment).
Action: *Dan DeVito, NASA*
Status: In a discussion with Ted Ackerson, IV&V was told to consult the Level 2, Volume 0 Requirements document for information on criticality definitions. IV&V is planning to contact Dan DeVito for further clarification on these definitions.
- 9) Conduct an assessment on the validity of the criticality classifications currently being assigned to the ECS requirements across releases. This assessment should be completed within two weeks after HAIS makes its RTM database available.
Action: *Debbie Izumi, Intermetrics team*
Status: Criticality assessments are being performed on a release-specific basis as part of the Requirements Analysis task (i.e., Task 5). For each ECS release, two TAMs will be developed - one which assesses the allocation of requirements to release, and the other which provides the criticality assessment. The date for delivering the criticality assessment for IR-1 is still TBD.

1.3 Overview of Schedule Status

Exhibit 1-2 presents the latest, high level milestone chart (i.e., dated June 12, 1995) for all technical tasks assigned on the EOSDIS IV&V contract. In conjunction with this exhibit, Exhibit 1-3 lists in chronological order all deliverables/milestones associated with the contract and the status of each.

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Exhibit 1-2: Milestone Chart (Landscape)

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Date Due	Milestone/ Deliverable	Task #	Status*	Comments
7/8/94	ECS Release A SDR IV&V RIDs	5	C	Accomplished within 17 days of contract award.
7/8/94	SDR IRD RID Package	9	C	Accomplished within 17 days of contract award.
7/15/94	M1 Requirements and Architecture	4	C	Submitted on time.
8/16/94	IV&V Management Plan - Draft	3	C	Submitted ahead of schedule.
8/16/94	M1 Initial Tool Architecture Review	4	C	Conducted ahead of schedule.
8/30/94	ISE System Requirements - Draft	4	C	Submitted on time.
10/7/94	EOSDIS Modeling Assessment Report (User Demographics)	5	C	Submitted on time.
10/17/94	ISVVP - Initial	3	C	Submitted on 10/18/94.
10/17/94	Certification Criteria Determination Report - Initial	10	C	Submitted on time.
10/18/94	M1 Demonstration	4	C	Conducted on schedule.
10/28/94	Preliminary ECS Rqmts Analysis Report	5	C	Submitted on time.
10/31/94	ISE System Requirements - Update	4	C	Submitted on time.
10/31/94	Version 0 User Assessment	9	C	Submitted on time.
11/30/94	CUP Study Report (Studies: 1-4, 6)	12	C	Submitted on time.
12/1/94	ECS-TRMM IRD Pilot TAR	9	C	Submitted on time.
12/16/94	IV&V Management Plan - Final	3	C	Ahead of schedule.
12/16/94	ISVVP - Update	3	C	Submitted on time.
12/16/94	ISE System Architecture - Draft	4	C	Submitted on time.
12/16/94	Performance Dependency Analysis Tool Requirements	10	C	Submitted one month ahead of schedule.
12/16/94	EICP - Initial	10	C	Submitted ahead of schedule.
12/23/94	ECS FOS PDR IV&V RIDs	5, 9	C	Submitted ahead of schedule.
12/30/94	Initial ARDB	5	C	Initial database development complete. Updates needed after requirements stabilize.
12/30/94	EOSDIS Modeling Assessment Report	5	C	Data not available to complete the analysis on 12/30/94. Needed Version 2 of BONEs Model from HAIS. New targeted date to complete this deliverable was set for 2/10/95. Based on the revised target date, the report was submitted on time.
12/30/94	Baseline Rqmts. Analysis Report	12	C	Submitted on time.
1/16/95	ISE System Architecture Review	4	C	Given on 1/12/94, ahead of planned schedule.
1/27/95	ECS CSMS PDR IV&V RIDs	5, 9	C	Submitted on time.
1/31/95	ISE System Architecture - Update	4	C	Submitted on time.
1/31/95	ISE Development Plan - Draft	4	C	Submitted on time.
1/31/95	CUP Study Report (Studies: 5, 7-10)	12	C	Submitted on time.

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* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

Note: *Italics* indicates tasks that are not yet activated.

EXHIBIT 1-3: Status of Milestones/Deliverables

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Date Due	Milestone/ Deliverable	Task #	Status*	Comments
2/24/95	ECS SDPS PDR IV&V RIDs	5, 9	C	Submitted on time.
2/28/95	M1 Revision 2 (M1R2) Demonstration	4	C	Conducted on time
2/28/95	ISE Development Plan - Final	4	C	Submitted on time.
2/28/95	EOSDIS Test System (ETS) Memorandum	13	C	Submitted on time.
3/1/95	ECS PDR Wrap-up IV&V RIDs	5, 9	C	Submitted on time.
3/1/95	Initial ARDB for IRD Requirements	9	C	Submitted on time.
3/16/95	EICP - Interim	10	CX	Task rescoped. EITVP to replace EICP.
4/3/95	IR-1 IRVVP (Final)	6	C	Submitted ahead of schedule on 3/30/95.
4/3/95	TRMM IRVVP (Preliminary)	6	C	Submitted ahead of schedule on 3/30/95.
4/17/95	ISE Element Requirements - Draft	4	C	Submitted on time.
4/28/95	SRR RIDs	12	C	Submitted ahead of schedule on 4/24/95.
5/15/95	EOSDIS Integration, Test, and Validation Plan (EITVP)	10	C	Submitted on time.
5/31/95	M1 Revision 3 (M1R3) Demonstration	4	IP	For Government convenience, actual demo was rescheduled for June 13, 1995.
5/31/95	IR-1 Design Evaluation TAR (Final)	6	IP	TAR is delayed until after CDR. A series of TAMs will be used for rapid feedback on design issues: SDPS TAM - 5/95 (Delivered on time); CSMS TAM - 6/95; SCDO TAM - 7/95.
5/31/95	TRMM Design Evaluation TAR (Preliminary)	6	IP	Delayed until after CDR. A series of TAMs will be used for rapid feedback on design issues. Same schedule as above.
5/31/95	EDOS Requirements Analysis TAR	12	C	Submitted on time.
6/1/95	EGS I&T Plan (Draft)	11	C	Submitted on time.
7/14/95	ISE Element Software Design - Draft	4	O	
7/14/95	ECS Requirements Analysis Report (Final)	5	O	
7/14/95	EGS I&T Plan (Final)	11	O	
7/28/95	ISE Element Requirements - Update	4	O	
7/31/95	ECS Release A CDR IV&V RIDs	5	O	
7/31/95	ECS AM-1 Rel IRD IV&V RIDs	6	O	
7/31/95	IR-1 Software Development Evaluation TAR (Final)	6	O	

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

Note: *Italics* indicates tasks that are not yet activated.

EXHIBIT 1-3: Status of Milestones/Deliverables (Continued)

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Date Due	Milestone/ Deliverable	Task #	Status*	Comments
8/1/95	Component Acceptance Master Test Plan	10	O	
8/7/95	AM-1 IRVVP - Preliminary	6	O	
8/16/95	ISE System Design Review	4	O	
8/31/95	ECS TRMM Rel CDR IV&V RIDs	6	O	
8/31/95	IR-1 Final Test Plans/Procedures Eval TAR	6	O	
9/1/95	EOSDIS Test Version I&T Plan/Procedures (Part 1)	11	O	
9/15/95	ETS CDR RIDs	5	O	
9/15/95	AM-1 Release Preliminary Design Evaluation TAR	6	O	
9/29/95	EOSDIS Test Version Component Test Plan/Procedures (Part 1)	10	O	
9/29/95	V0 System Performance Phase II TAR	13	O	
10/16/95	TRMM Final Design Evaluation TAR	6	O	
10/31/95	ECS IR-1 Requirements Analysis Report	5	O	
11/30/95	ISE Element User's Guide - Draft	4	O	
11/30/95	TRMM IRVVP - Final	6	O	
12/1/95	EOSDIS Test Version I&T Plan/Procedures (Part 2)	11	O	
12/15/95	ISE Element Software Design - Update	4	O	
12/29/95	IR-1 Final Test Results Evaluation TAR	6	O	
2/1/96	EGS Mission Certification Master Test Plan	10	O	
2/16/96	ISE Element Software Code - Initial	4	O	
2/16/96	ISE Element Version Description - Initial	4	O	
2/16/96	ISE Release 1 Demonstration	4	O	
3/1/96	EGS Version 1 I&T Plan/Procedures (Part 1)	11	O	
5/15/96	<i>ECS Release A IV&V Test Plan</i>	8	<i>O</i>	
5/31/96	ISE Element User's Guide - Update	4	O	
6/14/96	ISE Element Software Code - Update	4	O	
6/14/96	ISE Element Version Description - Update	4	O	
6/14/96	ISE Release 2 Demonstration	4	O	
6/28/96	TRMM Rel Software Development Evaluation TAR (Preliminary)	6	O	

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

Note: *Italics* indicates tasks that are not yet activated.

EXHIBIT 1-3: Status of Milestones/Deliverables (Continued)

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Date Due	Milestone/ Deliverable	Task #	Status*	Comments
8/15/96	<i>ECS Release A Test Scenario Operations</i>	8	O	
9/16/96	<i>ECS Release A IV&V Test Procedures (Initial)</i>	8	O	
11/15/96	<i>ECS Release A IV&V Test Procedures (Update)</i>	8	O	
12/16/96	<i>ECS Release A IV&V Test Start</i>	8	O	
2/17/97	<i>ECS Release A IV&V Test Analysis Report</i>	8	O	
Test Completion + 7 Days	EGS I&T Flash Summary Test Report	11	O	
Test Completion + 45 Days	EGS I&T Final Test Report	11	O	

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Note: *Italics* indicates tasks that are not yet activated.

EXHIBIT 1-3: Status of Milestones/Deliverables (Continued)

1.4 Performance Assurance Activities/Issues

- Advanced training for the Requirements Traceability Management (RTM) tool was conducted during the week of May 8, 1995. This training was intended to further advance the IV&V team's ability to use RTM for ECS and EDOS requirements analysis. In addition, system administration training for RTM was also conducted during the end of that week.
- Lotus Notes training for the Greenbelt staff is scheduled for June 14 and 15, 1995. This training is intended to increase the IV&V team's use of the groupware tool and expose them to applications which have been specifically developed to improve the EOSDIS IV&V interface (e.g., the Issue and Discrepancy Handling System [IDHS]).
- As part of an ongoing effort to improve our Novell network knowledge and expertise, IV&V System Administrators will be attending the NetWare User Conference on July 5 and 6, 1995, to participate in a two-day tutorial which prepares attendees for Certified Network Administrator (CNA) and Certified Network Engineer (CNE) accreditation.
- A System Engineering Process Group (SEPG) was established, consisting of both prime and subcontractor personnel. The charter of this group is to establish policy

with respect to hardware, software, and network issues, and to ensure the uniformity, integrity, and security of the EOSDIS IV&V network system.

- A formal process for reviewing Configuration Change Requests (CCRs) was established, including the use of multi-task action teams and a CCR status tracking mechanism.

1.5 Major Short Term Activities Planned

- **Program-wide Activities**

- Prepare for next Monthly Findings Meeting with ESDIS management.
- Work with Code 505 to finalize the scope and budget of the various tasks for the next contract year.
- Address network connectivity issues and consider justification for a T1 line.
- Fully populate the on-line library of the IV&V Homepage with the latest contract deliverables.

- **Task-specific Activities**

- For Task 4, conduct the M1R3 demonstration at Greenbelt on June 13, 1995, and conduct Lotus Notes training for Greenbelt staff on June 14 and 15, 1995. Also continue the TMDB analysis and prototyping effort.
- For Task 5, complete analysis of Level 2 to Level 1 traces as well as peer reviews for ECS requirements analysis. Also continue ECS modeling analyses and begin writing report.
- For Task 6, continue developing the series of ECS design analysis TAMs focusing on ECS IR-1 and Release A. Also, complete ECS SCDO CDR assessment white paper draft.
- For Task 9, continue populating the IADB and complete the TAR on EOSDIS Test Version Interfaces.
- For Task 10, revise EITVP and submit by June 30, 1995. Begin detailed planning for IR-1 component test activities.
- For Task 11, develop first draft of I&T Plan and solidify tool needs for I&T activities.

- For Task 12, perform Red Team Review on the re-planned EDOS baseline requirements, and continue supporting EDOS technical working groups.
- For Task 13, develop X-Runner scripts for Version 0 scenarios, and begin reducing the DAAC system monitoring data. Also begin formal testing.

1.6 Key Long Range Plans/Schedules

The IV&V team will support the activities and milestones identified in Exhibit 1-2. Emphasis will be placed on those activities that are on the critical path to support the on-time launch of the spacecraft. Such activities include supporting System Integration, performing Interface and Integration Testing, and conducting System Certification.

In addition, the IV&V team realizes the critical importance of a successful ECS Interim Release 1 (IR-1) and Release A to the future of the EOSDIS program. We will devote significant effort under Task 6 (i.e., ECS Development Analysis) to ensure that IR-1 and Release A are perceived as a success within both the ESDIS and user communities. In concert with these goals, the IV&V team is conducting a focused effort to suggest the appropriate criteria for evaluating the success of the upcoming ECS CDR.

As the EOSDIS program evolves, the IV&V team will become increasingly involved in System Integration and Test (SI&T) activities. This activity has already begun with the initiation of Task 11 (i.e., SI&T Planning and Execution) in mid-April, 1995.

2. TECHNICAL INFORMATION

2.1 Task # 4: IV&V Infrastructure and Tool Development

a) Task Accomplishments

- Prepared for Milestone 1 Release 3 (M1R3) Tools Demonstration to be given at the Intermetrics Greenbelt office on June 13, 1995.
- Established an Integrated Support Environment (ISE) Sybase database to support ongoing Test Management Database (TMDb) and Automated Requirements Database (ARDB) client/server development efforts.
- Prototyped a V0 test scenario and test session data capture capability using SQLWindows and Sybase to support the V0 testing activity (i.e., Task 13).
- For the EOSDIS IV&V Homepage, added additional IV&V documents to on-line library, started developing homepage maintenance utility, and updated the contacts list to identify Task Leads.
- Continued Interface Analysis Database (IADB) maintenance activities.
- Attended RTM technical user training (three people trained) and system administration training (two people trained) in Greenbelt office.
- Completed Lotus Notes training materials and scheduled training of Greenbelt staff for June 14 and 15, 1995.

b) Issues/Concerns

- We believe that the 56KB line connecting our Greenbelt office to GSFC will not be sufficient to support the data access / data transfer needs of the IV&V team in the long term. We are in the process of collecting data on this issue and plan to provide a written justification for a T1 capability.
- The time associated with the GFE procurement process is having an impact on our infrastructure development schedule. Since we now have an approved procurement system, it would be helpful if we could be granted the authority to directly order any needed GFE items within a certain dollar threshold.

c) Subcontractor Performance

- CTA performance during this reporting period was very good. They were directly responsible for the development gains realized in the IADB tool, including the implementation of eight new automated consistency and completeness analysis

reports; they also developed the Lotus Notes user training materials for the on-site training at Greenbelt.

- EWA performance during this reporting period was very good. They supported system administration activities for the Fairmont facility and on-going TMDB analysis and prototyping activities.

d) Planned Activities

- Conduct the M1R3 demonstration at Greenbelt on June 13, 1995.
- Negotiate Task 4 scope and staffing for next contract year with Ted Ackerson of GSFC.
- Conduct Lotus Notes training for Greenbelt staff.
- Achieve connectivity between the Lotus Notes servers in Greenbelt and Fairmont. Implement Lotus Notes database replication plans.
- Continue the TMDB analysis and prototyping. The TMDB prototype will be modified to support test case definition.
- Continue enhancing the IADB application, and porting the ARDB to SQLWindows.
- Initiate design documentation activities for the IADB, ARDB, and ESODIS IV&V Homepage.
- Support program meetings and briefings as required.

2.2 Task # 5: Requirements Analysis and Traceability

a) Task Accomplishments

- Continued ECS requirements analysis. Completed majority of Level 3 quality, testability and traceability assessments. Started peer reviews of Level 3 assessments. Began Level 2 to Level 3 traceability assessments.
- Received ECS RTM Data for IR-1 on May 25, 1995, containing requirements-by-release traceability to Level 4 requirements for IR-1 only. Additional IR-1 changes expected during first week in June. IV&V will receive these changes (and all future RTM changes/additions) from HAIS via RTM data file transfer. Upon receipt of these RTM updates, IV&V will provide a report to the ESDIS Project.

- Continued user, production, performance, and cost modeling analyses; met with Chris Daly to report status of IV&V modeling analyses and current plans to support CDR.
- Reviewed cost estimation software, as well as statistical analysis tool being considered for evaluating performance model results.
- Provided written responses to NASA on four CCRs.
- Attended RTM training conducted at IV&V Greenbelt Office.

b) Issues/Concerns

- The due date for HAIS' performance modeling deliverable is mid-July. Since this is only a few weeks before CDR, it limits the level of analysis that IV&V can achieve in time for the IV&V Modeling Assessment Report due late July.
- The RTM data from HAIS that was supposed to be available by the end of April was not delivered until the end of May. This delay in availability is causing some difficulties, since IV&V can not establish an accurate baseline to form its analysis without the data. We recommend that HAIS produce a schedule indicating when IR-1, Release A, Release B, etc., requirements-by-release and traces will be baselined in RTM.

c) Subcontractor Performance

- Subcontractor performance has been good.

d) Planned Activities

- Negotiate Task 5 scope and staffing for next contract year with Ted Ackerson of GSFC.
- Continue ECS requirements analysis. Complete analysis of Level 2 to Level 1 traces as well as peer reviews. Also, receive ECS "baseline" RTM data (IR-1 and FOS Rel A/Rel B) from HAIS.
- Continue ECS user, production, performance, and cost modeling analyses; and begin writing report to be delivered the end of July.
- Perform follow-up analysis of CCR 505-01-41-080 ("Incorporate COTS Capacity Baseline in ECS") as requested by C. Daly. Analysis entails verifying the proposed changes to several tables in Appendix C.

- Continue review of statistical analysis and cost estimation tools to assist in evaluating the performance model results and custom software estimation methods.
- Determine, through discussions with ESDIS, the rationale used for describing requirements criticality ratings. This information is needed to support IV&V requirements analyses.
- Continue to support HAIS and EDOS modeling meetings.
- Attend EOSDIS User Conference, sponsored by NASA HQ.
- Support program meetings and briefings as required.

2.3 Task # 6: ECS Development Analysis

a) Task Accomplishments

- Completed IR-1 and Release A design analysis (focused on SDPS); submitted Technical Analysis Memorandum (TAM) on May 31, 1995.
- Initiated ECS SCDO CDR assessment white paper to address CDR assessment process, prioritization, and success criteria.
- Attended ECS Prototype Workshop 1 (PW-1) debriefing session.
- Provided formal RTM training for new Task 6 personnel at IV&V Greenbelt Office. In addition, all Task 6 personnel attended a Software through Pictures (StP) demonstration by IDE.
- Began full-time occupancy of IV&V office space at HAIS by rotating Task 6 personnel on a daily basis.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- Subcontractor performance has been excellent.

d) Planned Activities

- Continue developing the series of ECS design analysis TAMs focusing on ECS IR-1 and Release A. Submit second TAM on SDPS INGEST CI by mid-June, and third TAM on CSMS by end-June.
- Complete ECS SCDO CDR assessment white paper draft, and submit for ESDIS review by the end of June.
- Support program meetings and briefings as required.

2.4 Task # 9: Key Interface Analysis

a) Task Accomplishments

- Continued to populate the IADB and data dictionary with dataflow information from available IRDs, including the EDOS-to-EGS IRD and information from supporting documents. Also demonstrated the IADB to ESDIS and SES management personnel.
- Delivered a TAM on the November version of the ECS-to-Version 0 IRD. This TAM summarized the findings and recommendations resulting from the IV&V requirement analysis.
- Analyzed the EDOS EGS IRD and responded to a CCR on the removal of quicklook.
- Started preparing a Technical Analysis Report (TAR) on interfaces contained in the IR-1 Release.
- Supported ESDIS CCB meeting for baselining the V0, NISS, NOAA, and SCF IRDs.
- Attended a demonstration of the Software through Pictures (StP) modeling analysis tool.

b) Issues/Concerns

- As previously noted, the schedule and content of the ICDs are a concern. The ESDIS Project is aware of this and has assigned a member of its management team to review the issue.

c) Subcontractor Performance

- CTA is the task lead for this effort. Their performance has been very good.

d) Planned Activities

- Negotiate Task 9 scope and staffing for next contract year with Candace Carlisle of GSFC.
- Continue populating the IADB with dataflow information from supporting documents.
- Complete the TAR on EOSDIS Test Version Interfaces.
- Attend meetings and telecons with ICD developers and ESDIS Book Bosses to become familiar with evolving ICD content prior to the release of these documents.
- Attend the ICWG, TRMM I&T, and EOSDIS SIT meetings.
- Support other program meetings and briefings as required.

2.5 Task # 10: EITVP and EOSDIS/EGS Certification Test Support

a) Task Accomplishments

- Completely revised the original EOSDIS Integration and Certification Plan (EICP) and submitted it to Code 505 for review. This document is now called the EOSDIS Integration, Test and Validation Plan (EITVP).
- Received comments on EITVP from GSFC on 22 May. Currently making final revisions to document for submittal on June 30, 1995.
- Attended ETS SDR. Developed 41 RIDs and recommended to customer that additional delta SDR or another full SDR be considered to address open issues.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- Subcontractor performance has been good; however, continued emphasis should be placed on staff planning and time scheduling.

d) Planned Activities

- Revise EITVP and submit to Code 505 by June 30, 1995.
- Begin detailed planning for IR-1 component test activities.
- Follow up on SDR RIDs and issues.
- Support program briefings as required.

2.6 Task # 11: System Integration and Test (SI&T) Planning and Execution

a) Task Accomplishments

- Developed EGS I&T Plan annotated outline and delivered it to Code 505 on June 1, 1995.
- Restarted the development of the EGS functional thread architecture; included a preliminary view of the updated thread concept in the I&T Plan annotated outline.
- Participated in ongoing detailed schedule and dependency planning with Code 505 personnel.
- Reviewed the DAAC MOU to assess the integration effort needed by Code 505; submitted comments to Ellen Herring on May 9, 1995.
- Reviewed the Test Data Management Tool Plan and provided comments to Code 505 on May 4, 1995.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- Subcontractor performance has been good; however, continued emphasis should be placed on staff planning and time scheduling.

d) Planned Activities

- Develop first draft of I&T Plan and submit by June 30, 1995.
- Complete review and expansion of EGS functional thread test architecture.
- Continue developing detailed system test coordination and dependency schedules.
- Solidify tool needs for Task 11 I&T activities.
- Support program briefings as required.

2.7 Task # 12: EDOS IV&V

a) Task Accomplishments

- Submitted a Technical Analysis Report (TAR) on the EDOS requirements, as well as the reworked TRW CUP study reports on May 31, 1995.
- Supported the Operational Prototype Requirements Review and generated 7 RIDs.
- Continued F&PR technical integrity evaluation and peer reviews.
- Supported RTM discussions involving child/parent database dependency and structure problems.

b) Issues/Concerns

- Access to the EDOS project server has still not been established by the Project office.

c) Subcontractor Performance

- No inputs from subcontractors for the month of May.

d) Planned Activities

- Perform Red Team Review on the re-planned EDOS baseline requirements.

- Support EDOS technical working groups and other V&V activities.
- Support program meetings/briefings as required.

2.8 Task # 13: IV&V Special Studies

a) Task Accomplishments

- Coordinated the installation of X-Runner at the GSFC DAAC.
- Provided technical direction for collecting system monitoring data at the DAACs. Also, worked closely with DAAC personnel to track hardware, software, and facility upgrades that could potentially affect Task 13 efforts, including the status of the IK server upgrades.
- Continued V0 test scenario development and execution.
- Developed a testing schedule for June 1995.

b) Issues/Concerns

- It appears that the IK upgrades will not be installed at all the DAACs in time to support Task 13 activities. Currently, NSIDC is the only DAAC that has promoted the March IK release to the operational environment. LaRC is planning on completing the upgrade in conjunction with a system wide upgrade taking place this week. EDC, MSFC, GSFC and JPL have experienced difficulties with this upgrade. We are investigating what performance data we can collect with the existing IK software.
- Although we have established connectivity to the Version 0 system from the Intermetrics facility, the link is extremely slow and only marginally useful. Until a faster link is obtained, the bulk of our work will be done from on-site hosts at GSFC.

c) Subcontractor Performance

- CTA is the lead for this new task. Their progress to date has been very good.

d) Planned Activities

- Develop X-Runner scripts for Version 0 scenarios.

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- Install X-Runner at the Intermetrics facility.
- Begin reducing the DAAC system monitoring data.
- Establish IV&V user accounts at GSFC and JPL DAACs.
- Begin formal testing on June 1, 1995.
- Evaluate the TMDB prototype.
- Support program meetings/briefings as required.

3. FINANCIAL/CONTRACTUAL INFORMATION

**Section 3 of This Report
Has Been Removed
Due to Proprietary Content.**